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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,258

04/18/2006

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EXAMINER

TIETJEN, MARINA ANNETTE

ART UNIT

PAPER NUMBER

3753

MAIL DATE

DELIVERY MODE

03/05/2009

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,258	<b>Applicant(s)</b> MASAMURA ET AL.	
	<b>Examiner</b> MARINA TIETJEN	<b>Art Unit</b> 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>11/25/2008</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

1. This office action is responsive to the amendment filed on 11/25/2008. As directed by the amendment: claims 1-6 have been amended and new claims 7-10 have been added. Thus, claims 1-10 are presently pending in this application. This action is made FINAL.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

### ***Information Disclosure Statement***

3. The information disclosure statement filed 11/25/2008 is acknowledged by the Examiner.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 1 recites the limitation "the diaphragm part forming substantially a 270° arc in the valve-opened state" in line 17. The

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specification, as originally filed, fails to disclose the diaphragm part forming a 270° arc at any state of the valve. The specification only specifies the diaphragm part extends in a curve in a valve-closed state (page 6, lines 21-22), and that a guide face having a slope contiguous from the upper fixing face above the diaphragm part, in which the diaphragm part comes into contact with the guide face when the diaphragm valve element is in the valve-open state (page 7, lines 3-6). The Applicant recited pg. 13, lines 16-22, and pg. 14, lines 12-17 as support for the 270° arc of the diaphragm part, however, this only discloses the part is curved and that the root is located closer to a center line L than the seat diameter, and does not disclose a 270° arc.

6. Claims 2-10 are included due to their dependency.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 1-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the diaphragm part forming substantially a 270° arc in the valve-opened state" in line 17. It is unclear what the 270° arc pertains to. Is the 270 referring to the arc each "arm" creates? Or is the arc created between the two "arms"? The term "arm" refers to the thin member diaphragm part 22. For the purpose of examination, it will be assumed the arc refers to the arc each "arm" creates.

Claims 2-10 are include due to their dependency.

***Claim Rejections - 35 USC § 102***

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 1-10 as far as they are definite, are rejected under 35 U.S.C. 102(b) as being anticipated by Moldenhauer (U.S. Pat. No. 4,826,132).

Moldenhauer discloses a diaphragm valve (fig. 1) comprising:

a body (1, 25) having an upper opening (in which 9 fits);

a first flow passage (Z) and a second flow passage (A) formed in the body (1, 25) to open into the upper opening (in which 9 fits);

a diaphragm valve element (10, 12) covering the upper opening (in which 9 fits) to form an airtight space through which the first (Z) and second (A) flow passages are allowed to communicate with each other;

a valve seat (13) formed in the body (1, 25);

an urging member (20) urging the diaphragm valve element (10, 12) against the valve seat (13) into a valve-closed state (col., 5, lines 63-66);

an actuator (7, 10, 6) adapted to bring the diaphragm valve element (10, 12) out of contact with the valve seat (13) into a valve-opened state;

wherein the diaphragm valve element (10, 12) comprising:

a main body (10) which is to be brought into/out of contact with the valve seat (13);

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a diaphragm part (12) formed extending in a curve, radially from the main body (10), the diaphragm part (12) forming substantially a 270° arc in the valve-opened state (diaphragm part "rolls" and preserves shape shown in fig. 2, while bringing tapered surface of 10 vertically upwards, thereby forming substantially a 270° arc; col. 3, line 54), and including a root (where 12 merges with 10, see labeled fig. 2 below) connected to the main body (10) and positioned inside the diameter of the valve seat (13); and

a fixed part (12a) formed at an outer peripheral edge of the diaphragm part (12) and held at a position higher than the root (substantial portion of fixed part sits above root) during the valve-closed state;

wherein the diaphragm valve element (10, 12) in which the diaphragm part (12) having a thin wall and the fixed part (12a) having a thick wall are formed so that respective upper surfaces are flush with each other, and the fixed part (12a) is held between a lower fixing face (of body 1) and an upper fixing face (of 23) which extends to the diaphragm part (12);

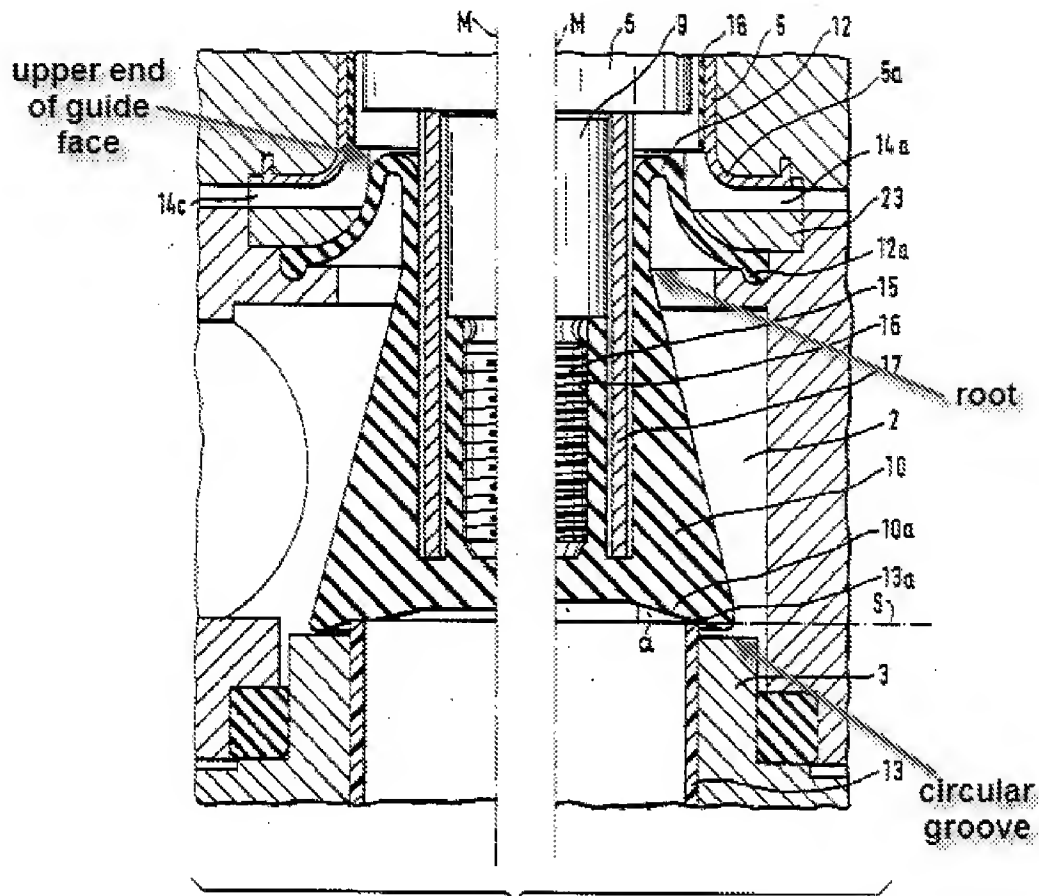


FIG. 2

a guide face (see labeled fig. 2 above) having a slope contiguous from the upper fixing face (of 23) above the diaphragm part (12) so that the diaphragm part (12) comes into contact with the guide face (fig. 2 above) when the diaphragm valve element (10, 12) is separated from the valve seat (13);

wherein a fluid-pressure-receiving area of the main body (10) is larger (col. 3, lines 56-63) than a fluid-pressure-applied area of the diaphragm part (12);

wherein the root (fig. 2 above) substantially vertically extends upward from the main body (10);

wherein an upper surface of the main body (10) inclines downward in a direction away from the urging member (20); and

a circular groove (see labeled fig. 2 above) formed around the valve seat (13), wherein the first flow passage (Z) is in communication with the circular groove (fig. 2 above) formed around the valve seat (13).

### **Conclusion**

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

WO 2005/054727 (Nagao et al.), JP 11037329 (Kimura), JP 09217845 (Kimura) disclose a diaphragm valve with a diaphragm part with a root and fixed end and wherein the diaphragm part forms substantially a 270° arc. Kimura ('845) and Nagao et al. disclose the root positioned inside the diameter of the seat. U.S. Pat. Nos. 3,134,570 (Jarrett) and 4,421,295 (Parkison) disclose a 270° arc formed *between* the diaphragm parts in a valve-open state. U.S. Pat. Nos. 6,685,164 (Koizumi et al), 3,407,845 (Cooksley), and Jarrett ('570) disclose a root positioned inside the diameter of the seat.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within



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TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARINA TIETJEN whose telephone number is (571) 270-5422. The examiner can normally be reached on Mon-Thurs, 9:00AM-5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, GREG HUSON can be reached on (571) 272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/M. T./

Examiner, Art Unit 3753

/John K. Fristoe Jr./

Primary Examiner, Art Unit 3753